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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/817,364

04/02/2004

Matthias Loeffler

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03/17/2008

CLARIANT CORPORATION  
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EXAMINER

HOUGHTLING, RICHARD A

ART UNIT

PAPER NUMBER

1617

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/817,364	<b>Applicant(s)</b> LOEFFLER ET AL.	
	<b>Examiner</b> Richard A. Houghtling, Ph.D.	<b>Art Unit</b> 1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

The Examiner acknowledges receipt of Applicant's response to the restriction requirement filed on 16 November 2007. Applicant elected without traverse Group I, claims 1-5 and 8-10 drawn to a process for preparation of a concentrate, thus the **RESTRICTION IS MADE FINAL.**

### ***Status of the Claims***

Claims 1-10 are pending. Claims 1-5 and 8-10 are presented for examination on the merits as they read upon the elected subject matter. Claims 6-7 are withdrawn from consideration as being drawn to non-elected subject matter.

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5 and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Dupuis et al. (U.S. Patent 6,120,780 as found in Applicant's IDS (PTO-1449) received on 30 September 2004).

The claims recite a process comprising the steps of:

- a) free radically polymerizing the monomers of formula (1) in the presence of the monomers having at least two olefinic double bonds, in a polymerization medium which behaves largely inertly with regard to free-radical polymerization reactions and permits the formation of high molecular weights,
- b) adding a higher-boiling solvent, solvent mixture, one or more emulsifiers or mixtures thereof and optionally water is added to the mixture of polymer and polymerization medium, where the boiling point of the higher-boiling solvent or solvent mixture is at least 10°C higher than that of the polymerization medium used for the polymerization and
- c) removing the polymerization medium (claim 1).

The dependent claims require a counterion X (claim 2), monomers with at least two olefinic double bonds (claim 3), polymerization medium (claim 4), and wherein the polymerization medium is tert-butanol (claim 5). Additional limitations to the process of claim 1 include: a removal step further comprises removing the polymerization medium at a pressure lower than atmospheric pressure (claim 8), a temperature greater than room temperature (claim 9), and the adding step further comprising the addition of water to the mixture of polymer and polymerization medium (claim 10).

Dupuis et al. teach a process of making poly(2-acrylamido-2-methylpropanesulphonic acid) using at least 90% neutralized poly(2-acrylamido-2-methylpropanesulphonic acid) by free-radical polymerization (see col. 4, lines 5-23;

Preparation Example A col. 6, lines 30-67; and Preparation Example B col. 7, lines 1-36). Dupuis et al. teach a process comprising the following steps:

(a) the 2-acrylamido-2methylpropanesulphonic acid monomer is dispersed or dissolved in free form in a tert-butanol or water and tert-butanol solution;

(b) the monomer solution or dispersion obtained in (a) is neutralized with one or more inorganic or organic bases preferably aqueous ammonia  $\text{NH}_3$ , in an amount which makes it possible to obtain a degree of neutralization of the sulphonic acid functions of the polymer ranging 90 to 100%;

(c) the crosslinking monomer(s) is/(are) added to the solution or dispersion obtained in (b);

(d) a standard radical polymerization is carried out in the presence of free-radical initiators at a temperature ranging from 10 to 150°C, the polymer precipitating in the tert-butanol-based solution or dispersion (see col. 4, lines 5-23). More specifically, Preparation Example A (col. 6, lines 31-67) teaches dispersion of 2-acrylamido-2methylpropanesulphonic acid in a tert-butanol solvent with vigorous stirring (col. 6, lines 35-37). The reaction medium is maintained at room temperature, when ammonia is added, to neutralize the reactive sulphonic acid groups (thus producing ammonium 2-acrylamido-2-methylpropanesulphonate), and until a pH of about 6-6.5 is obtained after about 30 minutes. A solution of trimethyloxypropane triacrylate in tert-butanol (a monomer having three olefinic double bonds (only two is required) and the reaction media is heated to 60°C, the reaction is simultaneously made inert by the addition of nitrogen into the flask. Once the reaction temperature is reached, the dilauroyl peroxide

is added to initiate the free radical polymerization reaction, which starts immediately and after 15 min from the addition of the initiator, a stream of nitrogen is introduced and the reaction medium temperature increases to a maximum of 65-70°C. After 30 min at this maximal temperature, the medium is heated to reflux and maintained for 2 hr. A thick paste forms. The mixture is cooled to room temperature and the product is filtered off. In Preparation Example B, an additional step is found to recover the paste which adds the step of drying the paste at 60-70°C under vacuum for 24 hours (see col. 7, lines 25-28). This step is equivalent to raising the temperature to remove the tert-butanol or tert-butanol and water solvent and the use of vacuum also is equivalent to removing the polymerization medium at lower than atmospheric pressure. The additional step adding water to the mixture of the polymer and polymerization medium is addressed by Dupuis et al. in that the polymerization medium may be a solution of tert-butanol and water.

Dupuis et al. also teaches the instantly claimed limitations. The counterion X in the formula (I) is a proton, a cation of an alkali metal, a cation equivalent to that of an alkaline earth metal or the ammonium ion (see col. 2, lines 28-31). Additionally, the crosslinking monomers are taught to have at least two olefinic double bonds and may be chosen from dipropylene glycol diallyl ether, polyglycol diallyl ethers, triethylene glycol divinyl ether, hydroquinone diallyl ether, tetrallyloxethanoyl or other polyfunctional allyl or vinyl ether alcohols, tetraethylene glycol diacrylate, triallylamine, trimethyloxypropane diallyl ether, methylene bisacrylamide and divinylbenzene (see col. 2, lines 34-41). Dupuis et al. further teach polymerization mediums of tert-butanol or

water and tert-butanol (see col. 4, lines 10-11 and 22-23). Therefore, each and every element of the claims are met by the reference.

### **Conclusion**

1. No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard A. Houghtling whose telephone number is (571) 272-9334. The examiner may normally be reached Mon-Thurs 8:30 am - 5:00 pm and alternate Fridays 8:30 am - 12:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan may be reached on (571) 272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RAH  
Patent Examiner

/San-ming Hui/

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Primary Examiner, Art Unit 1617